In the Claims:

1. (Currently amended) A method for structuring the surface of a synthetic fiber, wherein a substantially cylindrical fiber ~~(2)~~ is provided with a predefined surface structure ~~(20)~~ by means of plastic deformation, characterized by the following steps:

a) supplying the fiber ~~(2)~~ in a plastically deformable state;

b) plastically deforming the fiber ~~(2)~~ in an embossing process by means of at least one microlithographically structured embossing roller ~~(8; 22)~~, which cooperates with at least one pressure roller ~~(10, 10a, 10b; 24, 24a, 24b)~~, wherein each embossing roller and each pressure roller define therebetween an embossing zone ~~(18, 18a, 18b; 26, 26a, 26b)~~ for the fiber ~~(2)~~, and wherein each embossing roller has a maximum structural fineness of 10 μm; and

c) transferring the fiber ~~(2)~~ into a rigid state while maintaining the created surface structure ~~(20)~~.

2. (Currently amended) The method according to claim 1, characterized in that the fiber ~~(2)~~ is conducted through a plurality of embossing zones ~~(26, 26a, 26b)~~, wherein each embossing zone acts to emboss a yet unembossed part of the fiber surface.

3. (Currently amended) The method according to claim 1 ~~or 2~~, characterized in that the fiber ~~(2)~~ is conducted around the embossing roller ~~(16)~~ in screwlike fashion with a plurality of windings.

4. (Currently amended) The method according to claim 1 ~~any one of claims 1 to 3~~, characterized in that embossing roller ~~(22)~~ and pressure roller ~~(24, 24a, 24b)~~ have rotation axes inclined with respect to each other ~~(28; 30, 30a, 30b)~~ so as to cause a torsion of the fiber ~~(2)~~ passing therethrough.

5. (Currently amended) The method according to claim 4, characterized in that the torsion is adjusted in such a way that the fiber ~~(2)~~ is embossed on its entire circumference after having passed all the embossing zones ~~(26, 26a, 26b)~~.

6. (Currently amended) A device for carrying out the method of claim 1, comprising driving means for at least one fiber ~~(2)~~, and further comprising the following components, sequentially arranged in a driving direction (V):

a) a device for supplying the fiber ~~(2)~~ in a plastically deformable state;

b) embossing station ~~(6; 36)~~; and

c) a finishing device for transferring the fiber into a rigid state;

wherein the embossing station ~~(6; 36)~~ has at least one embossing roller ~~(8; 22)~~ provided with a microlithographically formed embossing structure and at least one pressure roller ~~(10, 10a, 10b; 24)~~ cooperating therewith, wherein the embossing roller has a maximum structural fineness of 10 µm, wherein the embossing roller ~~(8; 22)~~ and each one of the pressure rollers ~~(10, 10a, 10b; 24)~~ define an embossing zone ~~(18, 18a, 18b; 26)~~ for the fiber arranged therebetween.

7. (Currently amended) The device according to claim 6, characterized in that the embossing station ~~(6)~~ comprises a single embossing roller ~~(8)~~ and a plurality of pressure rollers ~~(10, 10a, 10b)~~, which are arranged so that the single embossing zones ~~(18, 18a, 18b)~~ are disposed substantially regularly around the circumference of the embossing roller ~~(8)~~.

8. (Original) The device according to claim 6, characterized in that the embossing station comprises a single pressure roller and a plurality of embossing rollers, which are arranged so that the single embossing zones are disposed substantially regularly around the circumference of the pressure roller.

9. (Currently amended) The device according to claim 7 ~~any one of claims 6 to 8~~, characterized in that each pair consisting of pressure roller ~~(24, 24a, 24b)~~ and embossing roller ~~(22)~~ cooperating therewith are inclined with respect to each other, wherein the corresponding embossing zone ~~(26, 26a, 26b)~~ is arranged close to the shortest gap between embossing roller ~~(22)~~ and pressure roller ~~(24, 24a, 24b)~~.

10. (Currently amended) A fiber with all-around laminarly profiled surface structure, produced by a method according to claim 1 ~~one of claims 1 to 5~~.

11. (New) The device according to claim 8, characterized in that each pair consisting of pressure roller and embossing roller cooperating therewith are inclined with respect to each other, wherein the corresponding embossing zone is arranged close to the shortest gap between embossing roller and pressure roller.

12. (New) The method according to claim 2, characterized in that the fiber is conducted around the embossing roller in screwlike fashion with a plurality of windings.

13. (New) The method according to claim 2, characterized in that embossing roller and pressure roller have rotation axes inclined with respect to each other so as to cause a torsion of the fiber passing therethrough.

14. (New) The method according to claim 3, characterized in that embossing roller and pressure roller have rotation axes inclined with respect to each other so as to cause a torsion of the fiber passing therethrough.